**Chloroprene Update Pager – OAQPS Activities**
**September 21, 2018**

2011 National Air Toxics Assessment (NATA):

- The 2011 NATA, released in December 2015, estimated cancer risks in LaPlace, LA of **800-in-1 million** at the census tract level.
- The risks are from emissions of chloroprene, which is a chemical used in the production of neoprene, and is emitted by the Denka Performance Elastomers, LLC (DPE) facility. DPE is the only emitter of chloroprene in the area and is the only producer of neoprene in the United States.
  - EPA's Office of Research and Development issued an updated IRIS assessment chloroprene in 2010, which found chloroprene to be a likely human carcinogen (with high degree of confidence) and established a unit risk estimate (URE). Using the IRIS URE, an individual exposed to an air concentration of 0.2 ug/$m^3$ over a 70-year lifetime would experience a lifetime cancer risk of 100-in-1 million.

2014 NATA:

- The 2014 NATA, released August 22, 2018, also estimated elevated cancer risks in LaPlace, LA from emissions of chloroprene. Due to changes in modeling methods, the census tract level cancer risk in the 2014 NATA is **2,000-in-1 million**.
  - Some of this census tract level risk is due to emissions of ethylene oxide from other facilities, but the majority is from chloroprene.
- In the 2014 NATA, emissions from the 2014 National Emissions Inventory (NEI) were used for DPE, which do not reflect any emissions reductions since the operation of the RTO began in March 2018.

Residual Risk and Technology Review (RTR):

- Neoprene production is a Polymers & Resins I Source Category, with only this facility. At the facility, there are also HON units, boilers, etc. However, the chloroprene is coming from the neoprene production emission points, including front- and back-end process vents, wastewater, equipment leaks, and raw material storage.
- The neoprene production source category was regulated under 2 RTR actions. EPA did not estimate cancer risks for chloroprene in those actions because chloroprene did not have a unit risk estimate (URE) at the time.
  - The first action, finalized in December 2008, determined risks were acceptable (using the older IRIS URE) and provided an ample margin of safety, so there were no changes to the existing MACT.
  - The second action, finalized in April 2011, promulgated new MACT standards for back-end process vents, a previously unregulated emission source.
- The 8-year technology review was due in 2016 for all emission sources except the back-end process vents, which is due in 2019.

Ambient Monitoring:

- Since May 2016, EPA has collected ambient air monitoring data for chloroprene in the LaPlace neighborhoods surrounding the DPE facility (24-hr samples every 3 days at 6 locations – see Figure 1).
- Monitoring has confirmed that emissions have been reduced, primarily from operation of the RTO. See Figures 2-4 for pre- and post-RTO comparisons.
- Discussions are underway about continuing the monitoring beyond December 2018.

**Figure 1. Locations of EPA's ambient monitors around DPE.**

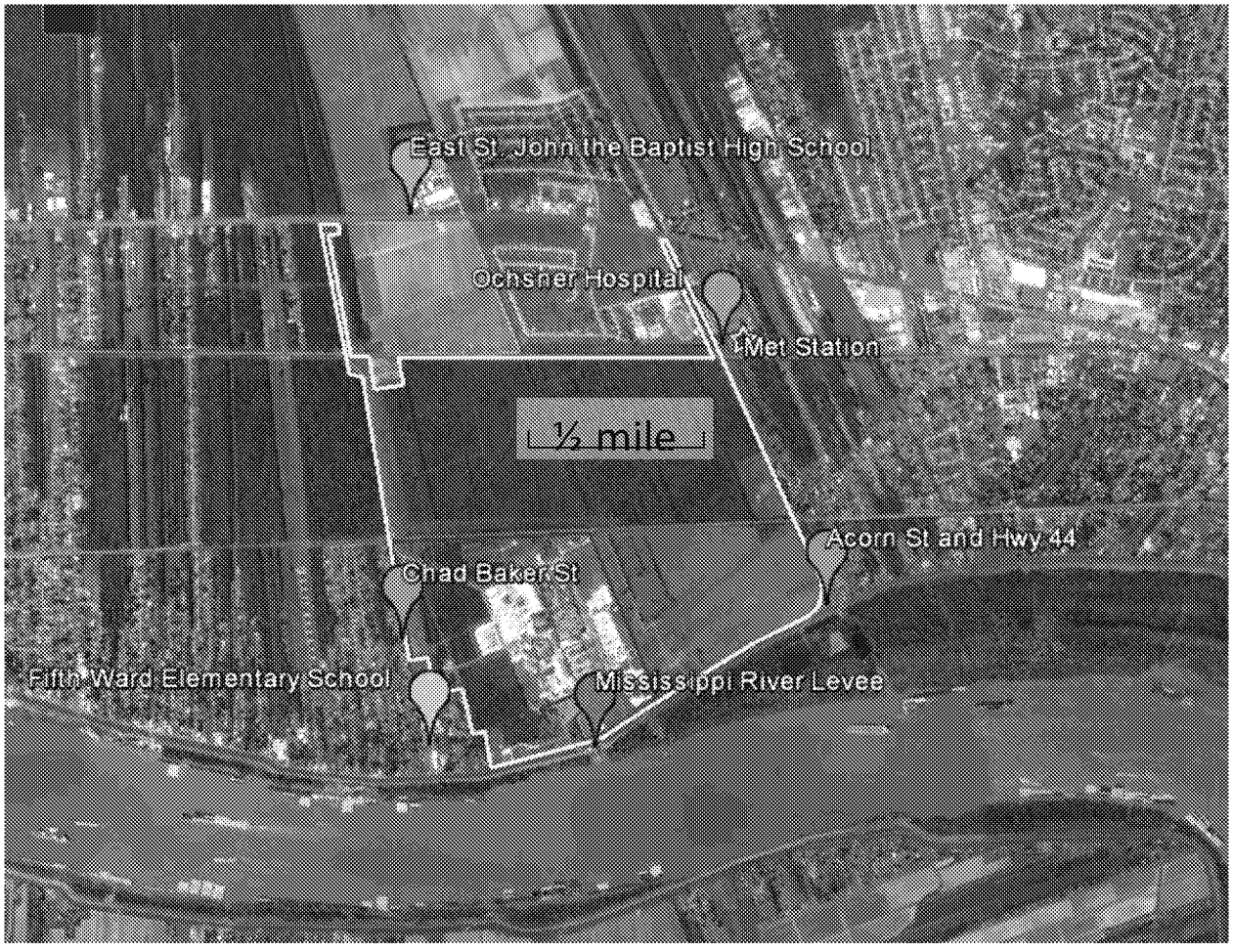


**Figure 2. All pre-RTO samples (211 sample days, 5/26/16 to 2/27/18) vs. post-RTO samples (57 sample days, 3/2/18 to 8/17/18).**

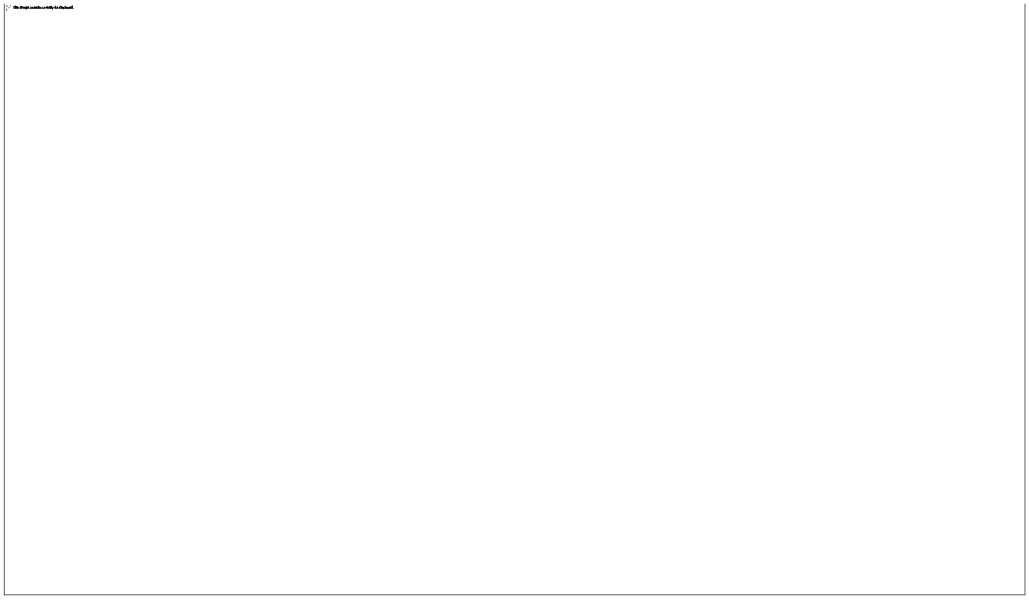

**Figure 3. Cumulative average ambient concentrations of chloroprene by site (May 25, 2016 to date).**

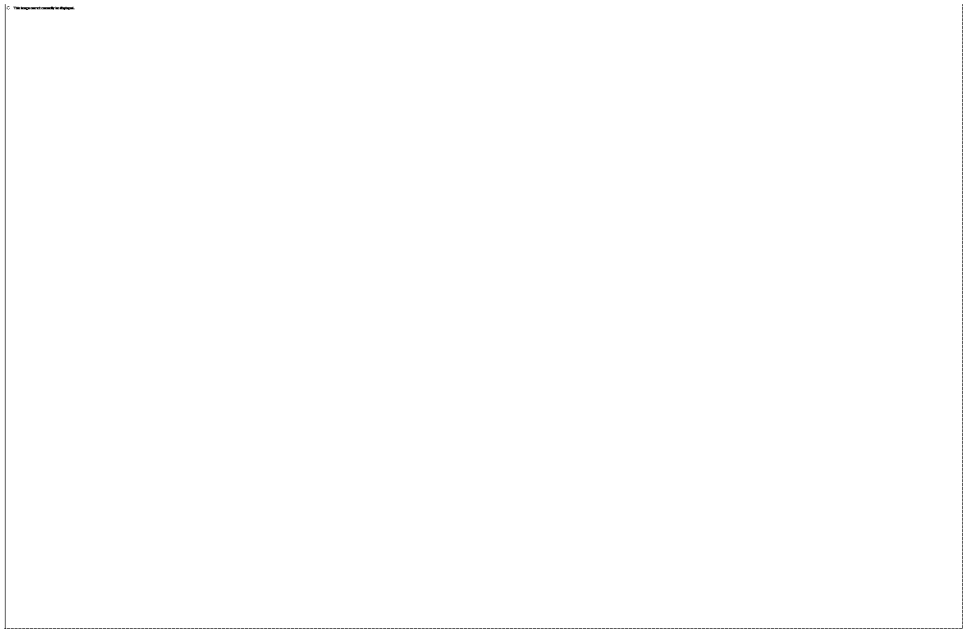

**Figure 4. Monthly average of maximum daily chloroprene concentrations vs. neoprene production.**